In the Claims:

Following is a complete listing of the claims pending in the application, as amended:

1-23. (Canceled)

24. (Original) A planarizing pad for mechanical and/or chemical-mechanical planarization of a microelectronic-device substrate assembly, comprising:

a planarizing medium having a planarizing surface with a planarizing zone defining a contact area for the substrate assembly;

at least one optically transmissive window through the planarizing medium, the window being in the planarizing zone; and

an optical port through the planarizing medium, the port being outside of the planarizing zone.

25. (Original) The pad of claim 24 wherein the optical port comprises a hole through the pad.

26. (Original) The pad of claim 24 wherein the optical port comprises a notch along an edge of the pad.

27. (Original) The pad of claim 24, further comprising:

a plurality of windows arranged in a first line aligned with the opening in the table in a direction generally parallel to the pad travel path; and

a plurality of optical ports arranged in a second line spaced apart from the first line.

28. (Original) The pad of claim 27 wherein the optical ports comprise holes through the pad.

29. (Original) The pad of claim 27 wherein the optical ports comprise notches along an edge of the pad.

30. (Original) A planarizing pad for mechanical and/or chemical-mechanical planarization of a microelectronic-device substrate assembly, comprising:

a planarizing medium having a planarizing surface with a planarizing zone defining a contact area for the substrate assembly;

at least one optically transmissive window through the planarizing medium, the window being in the planarizing zone; and

a contour element having a surface defining a discrete change in contour of at least one of a backside or an edge of the planarizing medium.

31. (Original) The pad of claim 30 wherein the contour element comprises an indent on the backside of the pad.

32. (Original) The pad of claim 30 further comprising:

a plurality of windows arranged in a first line aligned with the opening in the table in a direction generally parallel to the pad travel path; and

a plurality of contour elements arranged in a second line spaced apart from the first line.

33. (Original) The pad of claim 32 wherein the contour elements comprise a plurality of indents along the backside of the pad.

34. (Original) A planarizing pad for mechanical and/or chemical-mechanical planarization of a microelectronic-device substrate assembly, comprising:

a planarizing medium having a planarizing surface with a planarizing zone defining a contact area for the substrate assembly;

at least one optically transmissive window through the planarizing medium, the window being in the planarizing zone; and

a conductive feature on at least one of a backside or along an edge of the planarizing medium.

35. (Original) The pad of claim 34, further comprising:

a plurality of windows arranged in a first line aligned with the opening in the table in a direction generally parallel to the pad travel path; and

a plurality of conductive features arranged in a second line spaced apart from the first line.

36. (Original) The pad of claim 35 wherein the conductive features are arranged in a pattern along a backside of the planarizing medium.

37. (Original) A method for planarizing a microelectronic-device substrate assembly, comprising:

positioning an optically transmissive window in a planarizing pad in alignment with a first light beam of an endpointing system by moving the planarizing pad along a pad travel path, sensing when the window is aligned with the light beam, and stopping the planarizing pad from moving further along the pad travel path; and

removing material from a microelectronic-device substrate by pressing the substrate against a planarizing surface of the planarizing pad and moving the substrate and/or the planarizing pad in a planarizing plane.

38. (Original) The method of claim 37 wherein sensing when the window is aligned with the light beam comprises directing the light beam through the window to an optical sensor configured to receive the light beam when the window is aligned with the first light beam.

39. (Original) The method of claim 37 wherein sensing when the window is aligned with the light beam comprises detecting a reflection of ambient light from a

position monitoring site on a table supporting the planarizing pad through an optical port in the pad, the port being spaced apart from the window.

40. (Original) The method of claim 37 wherein sensing when the window is aligned with the light beam comprises detecting a change in contour of the planarizing pad at a contour element spaced apart from the window.

41. (Original) The method of claim 40 wherein the contour element comprises an indent on a backside of the planarizing pad arranged to be at a position monitoring site on a table supporting the planarizing pad when the window is aligned with the beam, and detecting a change in contour of the planarizing pad comprises biasing a probe of a displacement sensor into the indent when the window is aligned with the beam.

42. (Original) The method of claim 40 wherein the contour element comprises a notch along an edge of the planarizing pad arranged to be at a position monitoring site on a table supporting the planarizing pad when the window is aligned with the beam, and detecting a change in contour of the planarizing pad comprises biasing a probe of a displacement sensor into the notch when the window is aligned with the beam.

43. (Original) The method of claim 37 wherein sensing when the window is aligned with the light beam comprises engaging a conductive feature on the planarizing pad with a first electrical contact and a second electrical contact to electrically deactivate an actuator coupled to the pad when the window is aligned with the beam.

44. (Original) A method of endpointing mechanical or chemical-mechanical planarization processing of microelectronic-device substrate assemblies, comprising:

initially passing a light beam from an illumination site in a table through a first optically transmissive window in a planarizing pad to at least periodically

impinge a first substrate assembly with the light beam and optically sense a surface condition of the first substrate assembly;

advancing the planarizing pad relative to the table and the illumination site after planarizing the first substrate assembly;

stopping the advancement of the planarizing pad by sensing the light beam passing through a second optically transmissive window in the planarizing pad spaced apart from the first window in a direction generally parallel to the pad travel path; and

subsequently passing a light beam from the illumination site in the table through the second optically transmissive widow in the planarizing pad to at least periodically impinge a second substrate assembly with the light beam and optically sense a surface condition of the second substrate assembly.

45. (Original) The method of claim 45 wherein sensing the light beam comprises directing the light beam through the second window to an optical sensor configured to receive the light beam when the second window is aligned with the light beam.